AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-8.   (Canceled)

9.   (Previously Presented)   A polymer composition, comprising: a photodefinable polymer including a thermally decomposable sacrificial polymer and a photoinitiator, wherein the photoinitiator is selected from, bis(2,4,6-trimethylbenzoyl)-phenylphosphineoxide and 2-benzyl-2-dimethylamino-1-(4-morpholinophenyl)-butanone-1.

10-13. (Canceled)

14.   (Currently Amended) ~~The~~A method for fabricating a structure ~~of claim 13, further~~ comprising:

disposing a photodefinable polymer composition onto a surface, wherein the photodefinable polymer includes a sacrificial polymer and a photoinitiator;

disposing a gray scale photomask onto the photodefinable polymer, wherein the gray scale photomask encodes an optical density profile defining a three-dimensional structure to be formed from the photodefinable polymer;

exposing the photodefinable polymer through the gray scale photomask to optical energy;

removing portions of the photodefinable polymer composition to form the three-dimensional structure;

disposing an overcoat layer onto the three-dimensional structure; and

decomposing the photodefinable polymer composition, thermally, to form a three-dimensional air-region.

15.   (Original)   The method of claim 14, wherein decomposing includes:

maintaining a constant rate of decomposition as a function of time.

16. (Original) The method of claim 14, wherein decomposing includes:

maintaining a constant rate of mass loss of the photodefinable polymer.

17. (Original) The method of claim 14, wherein decomposing includes:

heating the structure according to the thermal decomposition profile expression

$$T = \frac{E_a}{R} [\ln \frac{A(l-rt)^n}{r}]^{-1}$$

where R is the universal gas constant, t is time, n is the overall order of decomposition reaction, r is the desired polymer decomposition rate, A is the Arrhenius pre-exponential factor, and E_a is the activation energy of the decomposition reaction.

18-19. (Canceled)

20. (Original) A structure, comprising the three-dimensional air-region formed using the method of claim 14.

21. (Original) A structure, comprising the three-dimensional air-region formed using the method of claim 15.

22. (Original) A structure, comprising the three-dimensional air-region formed using the method of claim 17.

23-27. (Canceled)

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